



State of Nevada – Department Of Personnel

CLASS SPECIFICATION

<u>TITLE</u>	<u>GRADE</u>	<u>EEO-4</u>	<u>CODE</u>
COMPUTER NETWORK TECHNICIAN III	37	C	7.927
COMPUTER NETWORK TECHNICIAN II	35	C	7.928
COMPUTER NETWORK TECHNICIAN I	33	C	7.931
COMPUTER NETWORK TECHNICIAN TRAINEE	31	C	7.944

SERIES CONCEPT

Incumbents in this class series install, operate, maintain and monitor computer networks, operating systems, personal computers (PCs), workstations and/or stand-alone computers; troubleshoot hardware and software problems; consult with users to determine automation requirements; and make hardware and software recommendations in relation to identified needs.

Install, operate, maintain, and monitor computer hardware and software on a Local Area Network (LAN) including starting and restarting the LAN; installing, troubleshooting, diagnosing, and maintaining equipment and application software packages on the LAN; running network backups; training users and working with them to resolve problems with hardware and software. The emphasis of this class series is on the operation and maintenance of LANs.

Research and procure hardware and software components for microcomputers within an agency. This is accomplished by evaluating availability of existing software packages, meeting with vendors, attending training courses, analyzing products in terms of agency needs, writing specifications for purchase of equipment/software, and recommending purchase to supervisors and managers.

Install and configure PC-related hardware and software including, but not limited to, network operating systems, file servers, print servers, agency communication gateways, network operating boards, application software, and stand-alone operating systems.

Monitor the performance of microcomputers within an agency, attach modems and additional hardware components, analyze and troubleshoot problems as they occur, and resolve the problem or contact the appropriate source for correction.

Provide technical support to staff and users, and assist users with application and system problems; diagnose and resolve problems with network file servers, gateways, telecommunications, bridges, personal computers, mini computers, hard disks, printers, etc., and install new hardware as needed; perform or instruct users how to perform data backups on agency systems.

Provide introductory/ongoing training to users of microcomputers and existing software/hardware. This is accomplished by demonstrating use of the microcomputer, introducing the various application software packages, instructing on the capabilities of the equipment, and assisting in structuring training courses.

Assist in determining security, file structures, menus, user access and backup methods for all data.

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SERIES CONCEPT (cont'd)

DISTINGUISHING CHARACTERISTICS:

Positions in this class series are characterized mainly by the complexity of the network systems administered. This includes:

- The number of nodes on a network
- The number of applications
- The number of file servers and database servers
- The number of data transport protocols required
- The number of microcomputer operating systems
- The number of different computing platforms
- The presence of gateways, bridges, and routers
- The presence of LANs or interconnected LANs

Perform related duties as assigned.

CLASS CONCEPTS

Computer Network Technician III: All incumbents at this level must possess an industry- recognized, engineering-level certification in a major network operating system, e.g. Novell CNE or Microsoft MCSE. In addition, incumbents must: 1) supervise at least four Computer Network Technicians; OR 2) perform network maintenance and support responsibilities for multiple State departments.

- 1) Supervisory positions are located in large departments with complex LANs. Incumbents recruit, select, train, supervise and evaluate the performance of assigned personnel; prepare and establish work performance standards; provide for appropriate training opportunities; and counsel and discipline staff as required.

Incumbents also meet with division administrators and program managers to identify networked information needs, develop work plans and report project status.

- 2) Non-supervisory positions are located in the State's central data processing department. Incumbents consult, design, implement, and troubleshoot complex, heterogeneous LANs within multiple departments of the State. These LANs may operate at multiple building locations, with a potential mix of network operating systems manufacturers.

Incumbents at this level consult with multiple State departments on the design and specification of client/server hardware and software configurations, LAN infrastructure requirements, (e.g. location and types of networking hardware such as uninterruptible power supplies, hubs, switches, routers), and the design of the Directory Services architecture, (e.g. schema organization models, type and placement of organizational units and objects, tree, forest, and domain organization).

They also consult on the design and implementation of security requirements and procedures; compile appropriate data to be used for recommendations to the Wide Area Network staff regarding site-to-site connectivity needs; and operate independently with minimal supervision.

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CLASS CONCEPTS (cont'd)

Computer Network Technician III (cont'd)

Duties require detailed knowledge of at least one network operating system, its commands, administration and utilities including recovery and backup; advanced level skills in designing, implementing, troubleshooting and maintaining Directory Services; and thorough understanding of active directory management including synchronization, partitioning, and replication principles.

Positions at this level are distinguished from Computer Network Technician II's by the advanced complexity of problems presented in troubleshooting LANs in multiple agencies, advanced administration techniques, and the associated knowledge required, including engineering-level certification in a network operating system.

Computer Network Technician II: Under direction, perform the full range of duties outlined in the series concept, including planning, designing, implementing and administering a LAN.

Incumbents troubleshoot hardware and software problems, consult with management to determine automation requirements, test and evaluate hardware and software options, and make recommendations in relation to identified needs.

Install software on networks and use programming languages to link packaged software or adapt applications for end-users.

Positions at this level are distinguished from Computer Network Technician I's mainly by the complexity level of the network system administered and the associated knowledge required including basic knowledge of at least one Network Operating System's commands, utilities (including recovery and backup) and basic LAN wiring; basic knowledge of at least one network topology or architecture (Token Ring, Ethernet, etc.); knowledge of LAN-based applications (installation, maintenance, and configuration) and workstation applications that are LAN-sensitive. Incumbents may serve as team leaders.

Computer Network Technician I: Positions allocated to this class work under general supervision and are responsible for work group business functions, enable data transfer, peripheral sharing and applications sharing within the work group.

Positions allocated to this class are responsible for upgrading hardware components on base unit (modify computer class, add memory, swap hard disk drives, etc.); add hardware to the base unit, such as swapping video monitor to a higher class, attach special function units such as scanners; use DOS-level utilities to enhance memory, compression etc; configure applications (both DOS and Windows) for optimum performance; connect and configure modems and/or FAX modems.

Set standards for hardware, software and work group functionality. Coordinate resources for a shared communications environment and the manipulation of specific work station variables to ensure that communications requirements do not conflict with basic work station functions.

Assist in planning and installing networks, and conduct routine analysis of the network, its hardware and software, and data security and recovery (if not provided through other channels).

Computer Network Technician Trainee: Under immediate supervision, incumbents perform routine PC-troubleshooting and software assistance while completing training in networking personal computers and undergo on-the-job training in network design, installation, maintenance, and administration techniques and complete self-study packets which provide the skills necessary for promotion to the next level.

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MINIMUM QUALIFICATIONS

SPECIAL NOTES AND REQUIREMENTS:

- * In order to meet the needs of various agencies, individual positions in this series may require specialized background or skills in order for the incumbent to perform the essential duties. Any specialized background required will be identified prior to recruitment, within the parameters of the class specification.
- * Education above the high school level may be substituted for experience on the basis of 30 semester credits equals six months of the required experience up to a maximum of one year of the required experience.
- * All positions at the Computer Network Technician III level are required to possess an industry-recognized, engineering-level certification in a major network operating system, e.g. Novell CNE or Microsoft MCSE at the time of appointment.

COMPUTER NETWORK TECHNICIAN III

EDUCATION AND EXPERIENCE: Graduation from high school or equivalent education and five years of work experience in a micro-computer environment, at least two years of which must have been in the design, implementation and maintenance of LANs; **OR** one year of experience as a Computer Network Technician II in Nevada State service; **OR** an equivalent combination of education and experience. (*See Special Notes and Requirements*)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Detailed knowledge of: the design and implementation of Directory Services; local area network operating systems; at least one network operating system's commands, administration and utilities including recovery and back up; network security issues; project planning related to network administration and development; team or project leadership. **Ability to:** communicate complex technical concepts and terminology to agency management and network users; design, implement, troubleshoot and maintain Directory Services; consult, design, implement, and troubleshoot complex heterogeneous LANs within multiple state agencies at multiple building locations, with a mix of Network Operating Systems; resolve issues quickly with a minimum of outside help; train, supervise and evaluate the performance of assigned personnel; work in/lead teams; *and all the knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: departmental policies and procedures pertaining to computer network administration; software licensing issues.

COMPUTER NETWORK TECHNICIAN II

EDUCATION AND EXPERIENCE: Graduation from high school or equivalent education and four years of work experience in a micro-computer environment, at least one year of which must have been in the design, implementation and maintenance of LANs **OR** one year of experience as a Computer Network Technician I in Nevada State service; **OR** an equivalent combination of education and experience. (*See Special Notes and Requirements*)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: various micro-computer languages, operating systems and hardware; data processing applications; local area network operating systems; network security issues; LAN-based applications (installation, maintenance, and configuration) and workstation applications that are LAN-

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MINIMUM QUALIFICATIONS (cont'd)

COMPUTER NETWORK TECHNICIAN II (cont'd)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (cont'd):

sensitive; LAN-based services (security, electronic mail, etc.). **General knowledge of:** at least one network operating system's commands, administration and utilities including recovery and back-up; at least one network topology or architecture (Token Ring, Ethernet, etc.); *and all knowledge, skills and abilities required at the lower levels.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: departmental policies and procedures pertaining to computer network administration. **General knowledge of:** software licensing issues.

COMPUTER NETWORK TECHNICIAN I

EDUCATION AND EXPERIENCE: Graduation from high school or equivalent education and three years of experience working in a microcomputer environment involving adding and upgrading hardware components on the base unit; using DOS-level utilities to enhance memory; configuring DOS and Windows applications for optimum performance; connecting and configuring modems etc; **OR** one year of experience as a Computer Network Technician Trainee in Nevada State service; **OR** an equivalent combination of education and experience. *(See Special Notes and Requirements)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

Working knowledge of: data processing applications; PC-based applications (installation, maintenance, and configuration) and workstation applications. **Ability to:** install and maintain network operating systems/work group operating systems; diagnose and correct hardware and software problems; prepare cost estimates for the purchase of products; communicate effectively orally and in writing; upgrade hardware components on the base unit (modify computer class, add memory, swap hard disk drives, etc.); use DOS-level utilities to enhance memory, RAM, compression, etc.; configure DOS and Windows applications for optimum performance; connect and configure modems and/or FAX/Modems; *and all knowledge, skills and abilities required at the lower level.*

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

Working knowledge of: agency policies and procedures pertaining to computer network administration.

COMPUTER NETWORK TECHNICIAN TRAINEE

EDUCATION AND EXPERIENCE: Graduation from high school or equivalent education and two years of experience working in a microcomputer environment assembling basic microcomputer components such as attaching monitor, keyboard, mouse etc. to base unit; attaching basic peripherals such as printer, modem, etc.; loading and upgrading standard software including operating systems, programs, utilities; **OR** an equivalent combination of education and experience. *(See Special Notes and Requirements)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

General knowledge of: data processing applications; PC-based applications (installation, maintenance, and configuration) and workstation applications. **Ability to:** install and maintain network operating systems/work group operating systems; diagnose and correct hardware and software problems; upgrade hardware components on the base unit (modify computer class, add memory, swap hard disk drives, etc.); configure applications for optimum performance communicate effectively orally and in writing; **Skill in:** interviewing users to identify needs.

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MINIMUM QUALIFICATIONS (cont'd)

COMPUTER NETWORK TECHNICIAN TRAINEE (cont'd)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

General knowledge of: basic component assembly (attaching monitor, keyboard, mouse, etc., to base unit); basic peripheral attachment (printer, modem, etc.); standard software loading and upgrading (operating system, operating system shell, programs, utilities, etc.).

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

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ESTABLISHED:	3/29/01UC	7/1/95P 9/16/94PC	7/1/95P 9/16/94PC	7/1/95P 9/16/94PC
REVISED:		7/1/97LG	7/1/97LG	7/1/97LG
REVISED:		3/29/01UC	3/29/01UC	3/29/01UC